

Having described the invention, the following is claimed:

1. An apparatus for use in applying coating material to an object, said apparatus comprising a spray gun having a handle portion, an extension portion which is connected with said handle portion, a nozzle connected with said extension portion, an electrode disposed adjacent to said nozzle and away from which electrostatically charged coating material flows toward the object, a coating material flow control member connected with said handle portion and manually operable to an actuated condition to initiate a flow of coating material from a coating material passage in said extension portion through said nozzle toward the object, and a purge air flow control member connected with said handle portion and manually operable to initiate a flow of air from the coating material passage in said extension portion through said nozzle to remove coating material from said spray gun.
2. An apparatus as set forth in claim 1 further including a voltage multiplier unit disposed within said spray gun, and an air passage extending at least part way through said spray gun, said air passage being at least partially defined by said voltage multiplier unit to expose a portion of said voltage multiplier unit to a flow of air through said air passage.

3. An apparatus as set forth in claim 1 wherein said handle portion includes a base portion formed of an electrically insulating material and a hand grip portion formed of an electrically conductive material, said hand grip portion being connected with an electrical ground.

4. An apparatus as set forth in claim 3 wherein said hand grip portion is releasably connected with said base portion to enable said hand grip portion to be detached from said base portion of said handle.

5. An apparatus as set forth in claim 1 further including a membrane switch disposed on said handle portion, said coating material flow control member being effective to operate said membrane switch to initiate a flow of coating material from said nozzle toward the object.

6. An apparatus as set forth in claim 5 further including a second membrane switch disposed on said handle portion, said purge air flow control member being effective to operate said second membrane switch to initiate a flow of air from the passage in said extension portion through said nozzle.

7. An apparatus as set forth in claim 1 wherein said handle portion includes an outer wall and an inner wall structure which is formed as one piece with said outer wall to at least partially define a first portion of a purge air passage which extends through said handle portion and is

connectable in fluid communication with a source of air under pressure, said extension portion includes an outer wall which is formed as one piece with said outer wall of said handle portion and an inner wall structure which is formed as one piece with said outer wall of said extension portion to at least partially define a second portion of said purge air passage, said second portion of said purge air passage being connected in fluid communication with said first portion of said purge air passage and with said coating material passage.

8. An apparatus as set forth in claim 7 wherein said inner wall structure in said handle portion cooperates with said outer wall of said handle portion to at least partially define a first portion of an electrode air passage which extends through said handle portion and is connectable in fluid communication with a source of air under pressure, said first portion of said electrode air passage being disposed in a side-by-side relationship with said first portion of said purge air passage and being separate from said first portion of said purge air passage, said inner wall structure in said extension portion cooperates with said outer wall of said extension portion to at least partially define a second portion of said electrode air passage, said second portion of said electrode air passage being disposed in a side-by-side relationship with said second portion of said purge air passage and being separate from said second portion of said

purge air passage, said second portion of said electrode air passage being connected in fluid communication with said first portion of the electrode air passage and with said nozzle.

9. An apparatus as set forth in claim 8 further including a voltage multiplier unit disposed in said extension portion of said spray gun, said voltage multiplier unit having a low voltage input connected with a source of low voltage by an electrical conductor and a high voltage output connected with said electrode, said inner wall structure in said handle portion cooperates with said outer wall of said handle portion to at least partially define a first portion of an electrical conductor passage which extends through said handle portion and in which a portion of said electrical conductor is disposed, said first portion of said electrical conductor passage being disposed in a side-by-side relationship with said first portion of said purge air passage and with said first portion of said electrode air passage, said inner wall structure in said extension portion cooperates with said outer wall of said extension portion to at least partially define a second portion of said electrical conductor passage.

10. An apparatus as set forth in claim 8 further including a voltage multiplier unit disposed in said extension portion of said spray gun, said inner wall structure in said extension portion includes an opening

through which air from said electrode air passage is exposed to a portion of said voltage multiplier unit to promote a transfer of heat from said voltage multiplier unit to a flow of air through said second portion of said electrode air passage.

11. An apparatus as set forth in claim 1 wherein said coating material flow control member is pivotally connected with said handle portion and is pivotal relative to said handle portion about a first axis, said purge air flow control member is pivotally connected with said handle portion and is pivotal relative to said handle portion about said first axis.

12. An apparatus as set forth in claim 1 further including a membrane switch unit connected with said handle portion, said membrane switch unit including a first membrane switch which is actuated by operation of said coating material flow control member from the unactuated condition to the actuated condition and a second membrane switch which is actuated by operation of said purge air flow control membrane from the unactuated condition to the actuated condition.

13. An apparatus as set forth in claim 1 further including a voltage multiplier unit disposed in said extension portion of said spray gun, said extension portion having a first section which extends from said handle portion in a direction away from said nozzle, a second

section which extends across an upper end of said handle portion, and a third section which extends from said handle portion in a direction toward said nozzle, said voltage multiplier unit having a first end portion which is disposed in said first section of said extension portion, an intermediate portion which is disposed in said second section of said extension portion, and a second end portion which is disposed in said third section of said extension portion, said first end portion of said voltage multiplier unit having a greater weight than said second end portion of said voltage multiplier unit to at least partially counterbalance weight of said spray gun offset from said handle in a direction toward said nozzle.

14. An apparatus as set forth in claim 1 wherein said extension portion of said spray gun includes a connector which is adapted to connect said extension portion of said spray gun with conduit means for conducting coating material to said extension portion of said spray gun, said handle portion of said spray gun includes a bracket which is formed of electrically insulating material and extends from said handle portion of said spray gun to engage said conduit means.

15. An apparatus as set forth in claim 1 wherein said coating material flow control member includes a manually engageable actuator surface, said purge air flow control member includes a manually engageable actuator surface, said manually engageable actuator surface on said purge air

flow control member being disposed between said manually engageable actuator surface on said coating material flow control member and said extension portion of said spray gun.

16. An apparatus as set forth in claim 15 wherein a central axis of the manually engageable actuator surface on said coating material flow control member extends transverse to a central axis of the manually engageable actuator surface on said purge air flow control member.

17. An apparatus as set forth in claim 15 wherein said manually engageable actuator surface on said purge air flow control member includes a first end portion which is disposed adjacent to said extension portion of said spray gun and a second end portion which is spaced further from said extension portion of said spray gun than said first end portion of said manually engageable actuator surface on said purge air flow control member, said manually engageable actuator surface on said coating material flow control member includes a first end portion which is disposed adjacent to said second end portion of said manually engageable actuator surface on said purge air flow control member, said manually engageable actuator surface on said coating material flow control member includes a second end portion which is spaced further from said extension portion of said spray gun than said first end portion of said manually engageable actuator surface on said coating material flow control member.

18. An apparatus as set forth in claim 17 wherein said second end portion of said manually engageable actuator surface on said purge air flow control member is offset from said first end portion of said manually engageable actuator surface on said coating material flow control member in a direction toward said nozzle to minimize any possibility of unintended actuation of said purge air flow control member during actuation of said coating material flow control member.

19. An apparatus as set forth in claim 1 further including a switch assembly disposed on said handle portion adjacent to said coating material flow control member and to said purge air flow control member, said switch assembly including first and second layers of electrically insulating material, a first switch element disposed between said first and second layers of electrically insulating material, a second switch element disposed between said first and second layers of electrically insulating material, said first switch element being resiliently deflectable relative to said second switch element from an unactuated condition in which said first switch element is spaced from said second switch element to an actuated condition in which at least a portion of said first switch element engages said second switch element, said first layer of electrically insulating material being deflectable under the influence of force transmitted from said coating material flow control member upon manual

operation of said coating material flow control member, said first switch element being resiliently deflected from the unactuated condition to the actuated condition under the influence of force transmitted from said first layer of electrically insulating material to said first switch element upon manual operation of said coating material flow control member and deflection of said first layer of electrically insulating material, a third switch element disposed between said first and second layers of electrically insulating material, and a fourth switch element disposed between said first and second layers of electrically insulating material, said third switch element being resiliently deflectable relative to said fourth switch element from an unactuated condition in which said third switch element is spaced from said fourth switch element to an actuated condition in which at least a portion of said third switch element engages said fourth switch element, said first layer of electrically insulating material being deflectable under the influence of force transmitted from said purge air flow control member upon manual operation of said purge air flow control member, said third switch element being resiliently deflected from the unactuated condition to the actuated condition under the influence of force transmitted from said first layer of electrically insulating material to said third switch element upon manual operation of said purge air flow control member and deflection of said first layer of electrically insulating material.

20. An apparatus as set forth in claim 19 wherein an edge portion of said first layer of electrically insulating material and an edge portion of said second layer of electrically insulating material are sealingly interconnected to block contaminants from entering between said first and second layers of electrically insulating material.

21. An apparatus as set forth in claim 19 wherein said first switch element is movable, under the influence of its own resilience, relative to said second switch element from the actuated condition in which at least a portion of said first switch element engages said second switch element to the unactuated condition in which said first switch element is spaced from said second switch element, said third switch element is movable, under the influence of its own resilience, relative to said fourth switch element from the actuated condition to the unactuated condition in which said third switch element is spaced from said fourth switch element.

22. An apparatus as set forth in claim 1 wherein said handle portion includes surfaces which define a recess which opens in a direction toward said nozzle and has a longitudinal central axis which extends through said extension portion, said coating material flow control member being at least partially disposed in and movable relative to said recess, said purge air flow control member being at least partially disposed in and movable relative

to said recess, at least a portion of said purge air flow control member being disposed between at least a portion of said coating material flow control member and said extension portion of said spray gun.

23. An apparatus as set forth in claim 22 further including means for supporting said coating material flow control member and said purge air flow control member for pivotal movement relative to said recess about a common axis.

24. An apparatus as set forth in claim 22 further including a switch assembly disposed in said recess, said switch assembly includes a first set of contacts which are actuatable by said coating material flow control member and a second set of contacts which are actuatable by said purge air flow control member.

25. An apparatus as set forth in claim 22 further including a switch assembly disposed in said recess, said switch assembly includes a first layer of electrically insulating material disposed in engagement with a bottom of said recess, a second layer of electrically insulating material which is sealingly interconnected with said first layer of electrically insulating material to block contaminants from entering between said first and second layers of electrically insulating material, a first set of switch contacts disposed between said first and second layers of electrically insulating material and actuatable

by movement of said coating material flow control member relative to said recess, and a second set of switch contacts disposed between said first and second layers of electrically insulating material and actuatable by movement of said purge air flow control member relative to said recess.

26. An apparatus as set forth in claim 1 wherein said handle portion includes a base formed of an electrically insulating material and means for engaging any one of a plurality of hand grips of different sizes to enable said spray gun to be adapted for manual engagement by operators having hands of different sizes, each of said hand grips of said plurality of hand grips being formed of an electrically conductive material and being connected with an electrical ground when connected with said base of said handle portion of said spray gun.

27. An apparatus as set forth in claim 1 further including a voltage multiplier unit disposed in said extension portion of said spray gun, said voltage multiplier unit having a low voltage input connected with a source of low voltage and a high voltage output, said low voltage input to said voltage multiplier unit being connected with a source of low voltage by an electrical conductor which extends through said handle portion into said extension portion of said spray gun, said electrode being connected with said high voltage output of said voltage multiplier unit, said handle portion of said spray

gun includes an outer wall and an inner wall structure which cooperates with said outer wall to at least partially define a first portion of an electrical conductor passage through which said electrical conductor extends and a first portion of an air passage which extends through said handle portion and is connected with a source of air under pressure, at least a portion of said inner wall structure being formed as one piece with said outer wall of said handle portion, said extension portion includes an outer wall and an inner wall structure which cooperates with said outer wall of said extension portion to at least partially define a second portion of said electrical conductor passage through which said electrical conductor extends and a second portion of said air passage, said second portion of said air passage conducts a flow of air which is exposed to an outer side surface area on said voltage multiplier unit, at least a portion of said inner wall structure in said extension portion being formed as one piece with said outer wall of said extension portion.

28. An apparatus for use in applying coating material to an object, said apparatus comprising a spray gun having a handle portion and an extension portion which is connected with said handle portion, a nozzle connected with said extension portion to direct a flow of coating material toward the object, and a switch assembly disposed on said handle portion to control the flow of coating material, said switch assembly including first and second layers of

electrically insulating material, a first switch element disposed between said first and second layers of electrically insulating material, a second switch element disposed between said first and second layers of electrically insulating material, said first switch element being resiliently deflectable relative to said second switch element from an unactuated condition in which said first switch element is spaced from said second switch element to an actuated condition in which at least a portion of said first switch element engages said second switch element, said first layer of electrically insulating material being deflectable under the influence of force transmitted from said coating material flow control member upon manual movement of said coating material flow control member from the first position to the second position, said first switch element being resiliently deflected from the unactuated condition to the actuated condition under the influence of force transmitted from said first layer of electrically insulating material to said first switch element upon deflection of said first layer of electrically insulating material.

29. An apparatus as set forth in claim 28 wherein an edge portion of said first layer of electrically insulating material and an edge portion of said second layer of electrically insulating material are sealingly interconnected to block contaminants from entering between

said first and second layers of electrically insulating material.

30. An apparatus as set forth in claim 28 wherein said first switch element is movable, under the influence of its own resilience, relative to said second switch element from the actuated condition in which at least a portion of said first switch element engages said second switch element to the unactuated condition in which said first switch element is spaced from said second switch element.

31. An apparatus as set forth in claim 28 wherein said handle portion of said spray gun includes an outer side surface which faces toward said nozzle, said second layer of electrically insulating material having a major side surface which is disposed in engagement with said outer side surface of said handle portion of said spray gun, and a coating material flow control member connected with said handle portion and movable relative to said handle portion to effect the application of force against a major side surface on said first layer of electrically insulating material.

32. An apparatus as set forth in claim 28 wherein said first switch element has an arcuate configuration and curves in a first direction when said first switch element is in the unactuated condition, said first switch element having an arcuate configuration and curves in a second

direction opposite to the first direction when said first switch member is in the actuated condition.

33. An apparatus as set forth in claim 28 further including a coating material flow control member connected with said handle portion, said coating material flow control member includes a manually engageable main portion and a spring portion which resiliently urges said coating material flow control member toward the second position, said spring portion of said coating material flow control member being formed as one piece with said manually engageable main portion of said coating material flow control member.

34. An apparatus as set forth in claim 33 wherein said spring portion of said coating material flow control member engages said first layer of electrically insulating material and applies force against said first layer of electrically insulating material to deflect said first layer of electrically insulating material and effect resilient deflection of said first switch element under the influence of force transmitted through said spring portion of said coating material flow control member.

35. An apparatus as set forth in claim 28 wherein said switch assembly including a third switch element disposed between said first and second layers of electrically insulating material, a fourth switch element disposed between said first and second layers of electrically

insulating material, said third switch element being resiliently deflectable relative to said fourth switch element from an unactuated condition in which said third switch element is spaced from said fourth switch element to an actuated condition in which at least a portion of said third switch element engages said fourth switch element, said third switch element being resiliently deflectable from the unactuated condition to the actuated condition under the influence of force transmitted from said first layer of electrically insulating material to said third switch element upon deflection of said first layer of electrically insulating material.

36. An apparatus as set forth in claim 35 wherein a flow of coating material from a coating material passage in said extension portion is conducted through said nozzle toward the objet when a coating material flow control member connected with said handle portion is in an actuated position, the flow of coating material from the coating material passage in said extension portion being interrupted when said coating material flow control member is in an unactuated position, a second control member connected with said handle portion, said switch assembly cooperating with said second control member to initiate a flow of purge air from the coating material passage in said extension portion upon movement of said second control member and resilient deflection of said third switch member

from the unactuated condition to the actuated condition to remove coating material from said spray gun.

37. An apparatus for use in applying coating material to an object, said apparatus comprising a spray gun having a handle portion which is manually engageable and an extension portion which is connected with said handle portion and extends outward from said handle portion, a nozzle connected with said extension portion to direct a flow of coating material toward the object, and a coating material flow control member connected with said handle portion and manually operable from an unactuated condition to an actuated condition to initiate a flow of coating material from said nozzle toward the object, said handle portion including a base and means for engaging any one of a plurality of hand grips of different sizes to enable said spray gun to be adapted for manual engagement by operators having hands of different sizes.

38. An apparatus as set forth in claim 37 wherein each of said hand grips of said plurality of hand grips is formed of an electrically conductive material and being connected with an electrical ground when connected with said base of said handle portion of said spray gun.

39. An apparatus as set forth in claim 37 wherein said base of said handle portion includes an outer side surface which is engageable with an inner side surface on any one of said hand grips of said plurality of hand grips, said

means for engaging any one of said hand grips of a plurality of hand grips includes a clamp member which is formed of an electrically conductive material and is pressed against an outer side surface of said one hand grip to clamp said one hand grip against said base of said handle portion, said clamp member being connected with an electrical ground.

40. An apparatus for use in applying electrostatically charged coating material to an object, said apparatus comprising a spray gun having a handle portion which is manually engageable and an extension portion which is connected with said handle portion and extends outward from said handle portion, a nozzle connected with said extension portion to direct a flow of coating material toward the object, said handle portion of said spray gun includes an outer wall and an inner wall structure which cooperates with said outer wall to at least partially define a first portion of an air passage which extends through said handle portion and is connected with a source of air under pressure, said inner wall structure being at least partially formed as one piece with said outer wall of said handle portion of said spray gun, said extension portion includes an outer wall and an inner wall structure which cooperates with said outer wall of said extension portion to at least partially define a second portion of said air passage, said inner wall structure of said extension portion being at least partially formed as one piece with

said outer wall of said extension portion, said second portion of said air passage extends from said handle portion into said extension portion.

41. An apparatus as set forth in claim 40 wherein said wall structure in said handle portion of said spray gun cooperates with said outer wall of said handle portion to at least partially define a portion of an electrical conductor passage in which a portion of an electrical conductor is disposed, said portion of said electrical conductor passage being disposed in a side-by-side relationship with said first portion of said air passage.

42. An apparatus as set forth in claim 41 further including a coating material flow control member connected with said handle portion and manually movable relative to said handle portion, a switch assembly disposed on said handle portion adjacent to said coating material flow control member, said switch assembly being operable from a first condition to initiate a flow of coating material away from said nozzle toward the object upon movement of said flow control member relative to said handle portion, and a second electrical conductor at least partially disposed in said first portion of said electrical conductor passage and connected with said switch assembly.

43. An apparatus as set forth in claim 41 wherein said wall structure in said extension portion of said spray gun cooperates with said outer wall of said extension portion

to at least partially define a second portion of said electrical conductor passage, said second portion of said electrical conductor passage being disposed in a side-by-side relationship with said second portion of said air passage, said electrical conductor being at least partially disposed in said second portion of said electrical conductor passage.

44. An apparatus as set forth in claim 43 wherein said inner wall structure in said handle portion is entirely formed as one piece with said outer wall of said handle portion, said outer wall of said extension portion is at least partially formed as one piece with said outer wall of said handle portion.

45. An apparatus as set forth in claim 40 wherein said inner wall structure in said extension portion of said spray gun includes a panel which has an intermediate portion which extends across an upper end of said handle portion, a first end portion which extends away from said handle portion in a direction away from said nozzle, and a second end portion which extends away from said handle portion in a direction toward said nozzle.

46. An apparatus as set forth in claim 45 wherein said first end portion of said panel includes an opening through which a portion of a multiplier unit is exposed to a flow of air through said air passage.

47. An apparatus for use in applying electrostatically charged coating material to an object, said apparatus comprising a spray gun having a handle portion which is manually engageable and an extension portion which is connected with said handle portion and extends outward from said handle portion, a nozzle connected with said extension portion to direct a flow of coating material toward the object, a coating material flow control member connected with said handle portion and manually operable from an unactuated condition to an actuated condition to initiate a flow of coating material from a coating material passage in said extension portion through said nozzle toward the object, an electrode disposed adjacent to said nozzle, said handle portion of said spray gun includes an outer wall and an inner wall structure which cooperates with said outer wall to at least partially define first and second air passages which extend from an end portion of said handle portion spaced from said extension portion through said handle portion to said extension portion, said first air passage being connected with a source of air under pressure at said end portion of said handle portion, said second air passage being connected with a source of air under pressure at said end portion of said handle portion, said extension portion of said spray gun includes an outer wall and an inner wall structure which cooperates with said outer wall of said extension portion to further define the first and second air passages, said outer wall and said inner wall structure of said extension portion cooperate to at least

partially define a portion of said first air passage which extends from the portion of said first air passage disposed in said handle portion to said electrode to enable air to flow from said handle portion to said electrode through said first air passage, said outer wall and said inner wall structure of said extension portion cooperate to at least partially define a portion of said second air passage which extends from the portion of said second air passage disposed in said handle portion to said coating material passage in said extension portion to enable air to flow from said handle portion to said coating material passage in said extension portion.

48. An apparatus as set forth in claim 47 wherein said outer wall of said handle portion and said inner wall structure of said handle portion cooperate to at least partially define an electrical conductor passage which extends from said end portion of said handle portion through said handle portion to said extension portion, said outer wall of said extension portion and said inner wall structure of said extension portion cooperate to at least partially define a portion of said electrical conductor passage which extends from the portion of said electrical conductor passage disposed in said handle portion to said electrode to enable an electrical energy to be conducted from said end portion of said handle portion to said electrode by electrical circuitry disposed in said electrical conductor passage.

49. An apparatus as set forth in claim 48 wherein a portion of said first air passage disposed in said extension portion of said spray gun and a portion of said electrical conductor passage disposed in said extension portion of said spray gun are coextensive.

50. An apparatus as set forth in claim 47 wherein said outer wall of said handle portion and said inner wall structure of said handle portion are formed as one piece.

51. An apparatus as set forth in claim 50 wherein said outer wall of said extension portion and said inner wall structure of said extension portion are at least partially formed as one piece with said outer wall and said inner wall structure of said handle portion.

52. An apparatus as set forth in claim 47 further including an air flow control member connected with said handle portion and manually operable from an unactuated condition to an actuated condition to initiate a flow of air through said second air passage.

53. An apparatus as set forth in claim 47 wherein said handle portion of said spray gun includes means for engaging any one of a plurality of hand grips of different sizes to enable said spray gun to be adapted for manual engagement by operators having hands of different sizes, each of said hand grips of said plurality of hand grips being formed of an electrically conductive material and

being connected with an electrical ground when connected with said handle portion of said spray gun.

54. An apparatus as set forth in claim 47 wherein said outer wall and said inner wall structure of said extension portion of said spray gun cooperate to at least partially define a voltage multiplier chamber having an intermediate portion which extends across an end of said handle portion which is connected with said extension portion of said spray gun, a first end portion which extends away from said handle portion in a direction away from said nozzle, and a second end portion which extends away from said handle portion in a direction toward said nozzle, and a voltage multiplier unit disposed in said voltage multiplier chamber, said voltage multiplier unit being positioned in said voltage multiplier chamber with a greater portion of the weight of said voltage multiplier unit in said first end portion of said voltage multiplier chamber than in said second end portion of said voltage multiplier chamber to at least partially balance weight of a portion of said spray gun offset from said handle portion in a direction toward said nozzle, said voltage multiplier unit having a low voltage input connected with a source of low voltage and a high voltage output connected with said electrode.

55. An apparatus as set forth in claim 54 wherein said inner wall structure in said extension portion of said spray gun includes a surface which defines an opening connecting said voltage multiplier chamber in communication

with the portion of said first air passage disposed in said extension portion of said spray gun.

56. An apparatus for use in applying electrostatically charged coating material to an object, said apparatus comprising a spray gun having a housing, a nozzle connected with said housing to direct a flow of coating material toward the object, an electrode disposed adjacent to said nozzle and away from which electrostatically charged coating material flows toward the object, a voltage multiplier unit disposed in said housing of said spray gun and connected with said electrode, and an air passage in said housing of said spray gun to conduct a flow of air, said voltage multiplier unit having an outer surface area which is exposed to the flow of air through said air passage in said housing of said spray gun to promote heat transfer from said voltage multiplier unit.

57. An apparatus as set forth in claim 56 wherein said housing of said spray gun includes a coating material passage through which coating material is conducted to said nozzle, and a purge air flow control member connected with said housing and operable from an unactuated condition to an actuated condition to initiate a flow of air from the coating material passage through said nozzle to remove coating material from said spray gun.

58. An apparatus as set forth in claim 57 further including a coating material flow control member connected

with said housing and operable to initiate a flow of coating material through said coating material passage and through said nozzle toward the object.

59. An apparatus as set forth in claim 56 wherein said housing includes a manually engageable handle portion, a first end portion of said voltage multiplier unit extends away from said handle portion in a direction away from said nozzle and a second end portion of said voltage multiplier unit extends away from said handle portion in a direction toward said nozzle, said first end portion of said voltage multiplier unit being heavier than said second end portion of said voltage multiplier unit to at least partially counterbalance weight of said spray gun offset from said handle portion in a direction toward said nozzle.

60. An apparatus for use in applying coating material to an object, said apparatus comprising a spray gun having a handle portion, an extension portion which is connected with said handle portion, a nozzle connected with said extension portion, a coating material flow control member connected with said handle portion and manually operable from an unactuated condition to an actuated condition to initiate a flow of coating material from said extension portion through said nozzle toward the object, and a switch assembly disposed on said handle portion, said switch assembly includes a first layer of electrically insulating material, a second layer of insulating material which is sealingly interconnected with said first layer of

electrically insulating material to block contaminants from entering said switch assembly, and first and second switch elements disposed between said first and second layers of electrically insulating material, said first switch element being resiliently deflectable from a condition spaced from said second switch element to a condition engaging said second switch element under the influence of force transmitted to said switch assembly upon operation of said coating material flow control member from the unactuated condition to the actuated condition.

61. An apparatus as set forth in claim 60 further including an air flow control member connected with said handle portion and manually operable from an unactuated condition to an actuated condition to initiate a flow of air through a passage in said extension portion and through said nozzle, said switch assembly includes third and fourth switch elements disposed between said first and second layers of electrically insulating material, said third switch element being resiliently deflectable from a condition spaced from said second switch element to a condition engaging said second switch element under the influence of force transmitted to said switch assembly upon operation of said air flow control member from the unactuated condition to the actuated condition.

62. An apparatus as set forth in claim 61 wherein said handle portion includes surfaces which define a recess which opens in a direction toward said nozzle and has a

longitudinal central axis which extends through said extension portion, said coating material flow control member being at least partially disposed in and movable relative to said recess, said air flow control member being at least partially disposed in and movable relative to said recess, at least a portion of said air flow control member being disposed between at least a portion of said coating material flow control member and said extension portion of said spray gun.

63. An apparatus as set forth in claim 62 further including means for supporting said coating material flow control member and said air flow control member for pivotal movement relative to said recess about a common axis.

64. An apparatus as set forth in claim 61 wherein said handle portion includes a base and means for engaging any one of a plurality of hand grips of different sizes to enable said spray gun to be adapted for manual engagement by operators having hands of different sizes.

65. An apparatus as set forth in claim 61 wherein said coating material flow control member includes a manually engageable actuator surface, said air flow control member includes a manually engageable actuator surface, said manually engageable actuator surface on said air flow control member being disposed between said manually engageable actuator surface on said coating material flow

control member and said extension portion of said spray gun.

66. An apparatus as set forth in claim 65 wherein a central axis of the manually engageable actuator surface on said coating material flow control member extends transverse to a central axis of the manually engageable actuator surface on said air flow control member.

67. An apparatus as set forth in claim 65 wherein said manually engageable actuator surface on said air flow control member includes a first end portion which is disposed adjacent to said extension portion of said spray gun and a second end portion which is spaced further from said extension portion of said spray gun than said first end portion of said manually engageable actuator surface on said air flow control member, said manually engageable actuator surface on said coating material flow control member includes a first end portion which is disposed adjacent to said second end portion of said manually engageable actuator surface on said air flow control member, said manually engageable actuator surface on said coating material flow control member includes a second end portion which is spaced further from said extension portion of said spray gun than said first end portion of said manually engageable actuator surface on said coating material flow control member.

68. An apparatus as set forth in claim 67 wherein said second end portion of said manually engageable actuator surface on said air flow control member is offset from said first end portion of said manually engageable actuator surface on said coating material flow control member in a direction toward said nozzle to minimize any possibility of unintended actuation of said air flow control member during actuation of said coating material flow control member.

69. An apparatus as set forth in claim 61 wherein said handle portion includes an outer wall and an inner wall structure which is formed as one piece with said outer wall to at least partially define a first portion of an air passage which extends through said handle portion and is connectable in fluid communication with a source of air under pressure, said extension portion includes an outer wall which is formed as one piece with said outer wall of said handle portion and an inner wall structure which is formed as one piece with said outer wall of said extension portion to at least partially define a second portion of said air passage.

70. An apparatus as set forth in claim 60 further including a spring which urges said coating material flow control member toward the unactuated condition, said first switch element being resiliently deflectable to the condition engaging said second switch element under the influence of force transmitted through said spring.

71. An apparatus as set forth in claim 70 further including an air flow control member connected with said handle portion and manually operable from an unactuated condition to an actuated condition to initiate a flow of air through a passage in said extension portion and through said nozzle, a second spring which urges said air flow control member toward the unactuated condition, said switch assembly includes third and fourth switch elements disposed between said first and second layers of electrically insulating material, said third switch element being resiliently deflectable from a condition spaced from said second switch element to a condition engaging said second switch element under the influence of force transmitted through said second spring to said switch assembly upon operation of said air flow control member from the unactuated condition to the actuated condition.